



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/577,490

04/27/2006

Shoji Kawahito

062487

5105

38834 7590 03/20/2007
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
1250 CONNECTICUT AVENUE, NW
SUITE 700
WASHINGTON, DC 20036

EXAMINER

JEAN PIERRE, PEGUY

ART UNIT

PAPER NUMBER

2819

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

03/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/577,490	Applicant(s) KAWAHITO, SHOJI	
	Examiner Peguy JeanPierre	Art Unit 2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11.14.06; 4.27.06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statements filed on 11/4/2006 and 4/27/2006 have been considered.

Drawings

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

5. The specification has not been checked to the extent necessary to determine the presence of all typographical and grammatical errors. Applicant cooperation is requested in correcting any errors he/she may become aware in the application.

Claim Rejections - 35 USC § 112

6. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the circuit elements, as recited is confusing. They can be referred to the circuit element of the A/D converter, the circuit element of the D/A converter and the circuit element of the sampling and hold circuit. Please clarify the claimed language by numbering the circuit element "first" 'second' and 'third' to erase any confusion that may arise in interpreting the claimed language.

In claim 1, line 7, the term the input and output of ..." lacks antecedent basis;

line 8, the term " the analog input" lacks antecedent basis;

line 9 the term " the output of said amplification" lacks antecedent basis;

line 11, the term " said amplification means ... via said first capacitor" is confusing. For the first capacitor seems to relate to the digital to analog converter.

Line 14 the term "an input signal is supplied as the input of said amplification means" is confusing. Does the input signal refer to the previously recited input signal in line 11 or does it constitute a second input to the amplification means?. Line 15 another signal is inputted into the sample and hold circuit. The number and the type of signals inputted into the sample and hold circuit are confusing. Please clarify.

Claim 2 is confusing. The claim recites a first DAC capacitor whereas claim 2 recites "two first DAC capacitors" the position and operation of the capacitors must be recited in the claims to clarify the claimed language. In addition, in line 6, the terms "the plurality of capacitors" and "the conversion speed" lack antecedent basis.

In claim 3, line 2, the term “ divides the analog signal “ is confusing. An analog value and analog input were previously recited in claim 1.

In claim 4, line 4, the term “ the peripheral area” is indefinite.

In claim 5, line 2, the term “the output of an image sensor” lacks antecedent basis.

Allowable Subject Matter

7. Claims 1-7 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

8. The following is a statement of reasons for the indication of allowable subject matter: Opris et al. fail to teach an analog to digital converter that comprises an amplification circuit which determines the gain by a ratio of a second capacitor between the inverting input and output of the amplifier and a first capacitor coupled to the input of the operational amplifier, the converter further comprises a sample and hold circuit that samples the output of the amplification means by a second switching means and the first capacitor; another switching means which selects one of the output of the amplification means and an input signal and supplies the selected signal to an amplification circuit.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Casper (USP 7,102,560), Opris (USP 6,097,326), Atriss (USP 6,909,393) disclose switched capacitor analog to digital converter circuit.

Art Unit: 2819

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peguy JeanPierre whose telephone number is (571) 272-1803. The examiner fax phone number is (571) 273-1803.


Peguy JeanPierre
Primary Examiner